

TEST REPORT

Applicant: Quectel Wireless Solutions Co., Ltd
Address: Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233
Equipment Type: Wi-Fi & BT Module
Model Name: FC80A
Brand Name: Quectel
FCC ID: XMR202203FC80A
ISED Number: 10224A-202203FC80A
Test Standard: 47 CFR Part 15 Subpart B
ICES-003 (Issue 7, October 15, 2020)
Test Date: Mar. 29, 2022 - Mar. 30, 2022
Date of Issue: Jun. 13, 2022

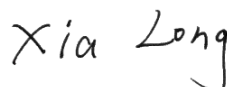
ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Xiong Chong

Checked by: Xia Long

Approved by: Liao Jianming
(Technical Director)



Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Jun. 13, 2022</u>	<u>Initial Issue</u>

TABLE OF CONTENTS

1 GENERAL INFORMATION.....	4
1.1 Identification of the Testing Laboratory	4
1.2 Identification of the Responsible Testing Location	4
2 PRODUCT INFORMATION	5
2.1 Applicant Information.....	5
2.2 Manufacturer Information	5
2.3 Factory Information	5
2.4 General Description for Equipment under Test (EUT)	5
2.5 Ancillary Equipment.....	6
2.6 Technical Information	6
3 SUMMARY OF TEST RESULTS.....	7
3.1 Test Standards	7
3.2 Verdict	7
3.3 Test Uncertainty	7
4 GENERAL TEST CONFIGURATIONS	8
4.1 Test Environments, Test Date and Test Engineer	8
4.2 Test Equipment List.....	8
4.3 Test Enclosure list	10
4.4 Test Configurations	11
4.5 Test Setups	12
4.6 Test Conditions	14
5 TEST ITEMS.....	15
5.1 Emission Tests	15
ANNEX A TEST RESULTS	20
A.1 Radiated Emission	20

A.2 Conducted Emission	27
ANNEX B TEST SETUP PHOTOS.....	30
ANNEX C EUT EXTERNAL PHOTOS.....	30
ANNEX D EUT INTERNAL PHOTOS.....	30

1 GENERAL INFORMATION

1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province, China
Phone Number	+86 755 6685 0100

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province, China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196. The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A.
Description	All measurement facilities used to collect the measurement data are located at Block B, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province, China

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Quectel Wireless Solutions Co., Ltd
Address	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233

2.2 Manufacturer Information

Manufacturer	Quectel Wireless Solutions Co., Ltd
Address	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233

2.3 Factory Information

Factory	N/A
Address	N/A

2.4 General Description for Equipment under Test (EUT)

EUT Name	Wi-Fi & BT Module
Model Name Under Test	FC80A
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	R1.0
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.5 Ancillary Equipment

Note: Not applicable.

2.6 Technical Information

Network and Wireless connectivity	Bluetooth, WIFI
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The requirement for the following technical information of the EUT was tested in this report:

The Highest Speed of Processor	N/A
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3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15 Subpart B	Unintentional Radiators
2	ICES-003 (Issue 7, October 15, 2020)	Information Technology Equipment (Including Digital Apparatus)
3	ANSI C63.4-2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

3.2 Verdict

No.	Description	FCC Rule	ISED Rule	Test Verdict	Result
1	Radiated Emission	15.109	ICES-003, 3.2.2	Pass	Annex A .1
2	Conducted Emission, AC Ports	15.107	ICES-003, 3.2.1	Pass	Annex A .2

3.3 Test Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Measurement	Value
Conducted emissions (9 kHz-30 MHz)	3.22 dB
Radiated emissions (30 MHz-1 GHz)-10m	4.80 dB
Radiated emissions (30 MHz-1 GHz)-3m	4.76 dB
Radiated emissions (1 GHz-18 GHz)-3m	4.88 dB

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments, Test Date and Test Engineer

Test items	Voltage	Temperature	Relative Humidity	Ambient Pressure	Test Date	Test Engineer
Radiated Emission	DC 5V from Adapter	22.8°C, 23.2°C	52%, 51%	101kPa	Mar. 30, 2022	Lin Yupeng
Conducted Emission	DC 5V from Adapter	24.5°C	54%		Mar. 29, 2022	Xu Donglin

4.2 Test Equipment List

Radiated Emission Test For Frequency Below 1 GHz (10 m)						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2021.10.10	2022.10.09	<input checked="" type="checkbox"/>
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2018054558	2021.10.10	2022.10.09	<input checked="" type="checkbox"/>
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9163	9163-624	2019.07.02	2022.07.01	<input checked="" type="checkbox"/>
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60* 7.35m	N/A	2021.08.15	2024.08.14	<input checked="" type="checkbox"/>
Description	Manufacturer	Name		Version		Use
Test Software	BALUN	BL410-E		V19.918		<input checked="" type="checkbox"/>

Radiated Emission Test For Frequency Below 1 GHz (3m)						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9038A	MY55330120	2021.10.20	2022.10.19	<input type="checkbox"/>
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2021.10.20	2022.10.19	<input type="checkbox"/>
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9163	9163-624	2019.07.02	2022.07.01	<input type="checkbox"/>
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2021.09.04	2024.09.03	<input type="checkbox"/>
Description	Manufacturer	Name		Version		Use
Test Software	BALUN	BL410-E		V19.918		<input type="checkbox"/>

Radiated Emission Test For Frequency Above 1 GHz (3m)						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	Agilent	N9038A	MY55330120	2021.10.20	2022.10.19	<input checked="" type="checkbox"/>
Spectrum Analyzer	ROHDE & SCHWARZ	FSV40	101544	2022.01.04	2023.01.03	<input checked="" type="checkbox"/>
Amplifier (1-12GHz)	Advanced Microwave	WLA652A	1740103	2021.10.20	2022.10.19	<input checked="" type="checkbox"/>
Amplifier (0.8-21GHz)	Mini-Circuits	ZVA-213-S+	225321316	2021.10.20	2022.10.19	<input checked="" type="checkbox"/>
Amplifier (18-40GHz)	COM-MV	KA_LNA18-4 0G-01	18050001	2021.10.20	2022.10.19	<input checked="" type="checkbox"/>
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	1917	2019.07.02	2022.07.01	<input checked="" type="checkbox"/>
Test Antenna-Horn	A-INFOMW	LB-180400K F	J211060273	2021.07.02	2024.07.01	<input checked="" type="checkbox"/>
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2021.09.04	2024.09.03	<input checked="" type="checkbox"/>
Description	Manufacturer	Name		Version		Use
Test Software	BALUN	BL410-E		V19.918		<input checked="" type="checkbox"/>

Conducted disturbance Test						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2021.10.10	2022.10.09	<input checked="" type="checkbox"/>
LISN	SCHWARZBECK	NSLK 8127	8127-687	2021.06.08	2022.06.07	<input checked="" type="checkbox"/>
Shielded Enclosure	YiHeng Electronic Co., Ltd	3.5m*3.1m*2.8m	N/A	2022.02.19	2025.02.18	<input checked="" type="checkbox"/>
Description	Manufacturer	Name		Version		Use
Test Software	BALUN	BL410-E		V19.918		<input checked="" type="checkbox"/>

4.3 Test Enclosure list

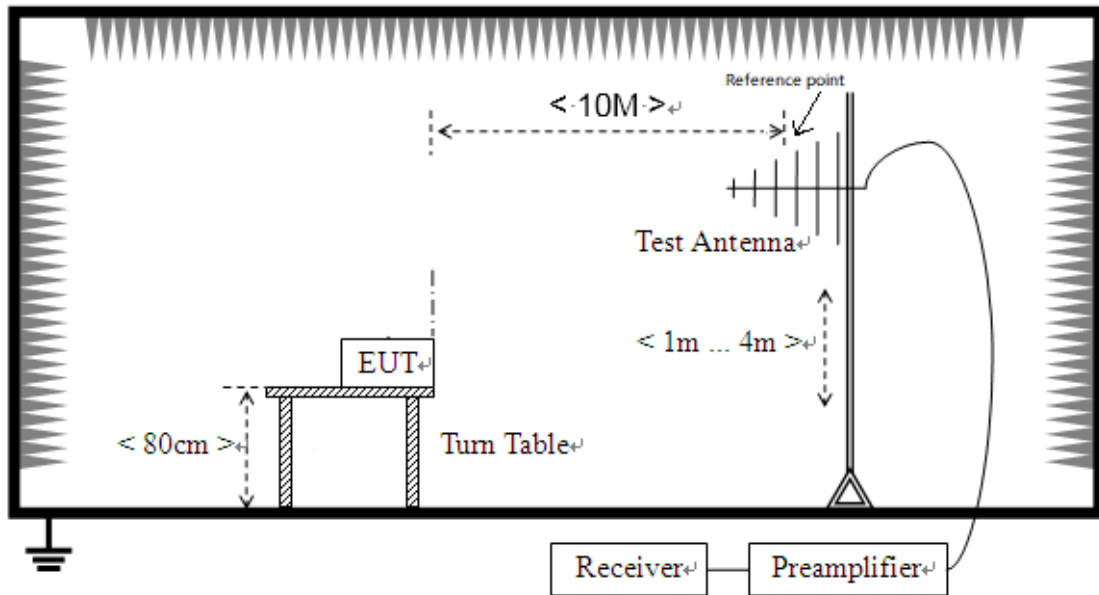
Description	Manufacturer	Model	Serial No.	Length	Description	Use
Adapter	JINGSAI	CLS-050200	N/A	N/A	N/A	<input checked="" type="checkbox"/>
Antenna 1	N/A	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
Antenna 2	N/A	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>

4.4 Test Configurations

Test Configurations (TC) No.	Description
TC01	<u>The Working Test Mode</u> EUT + Antenna + Adapter

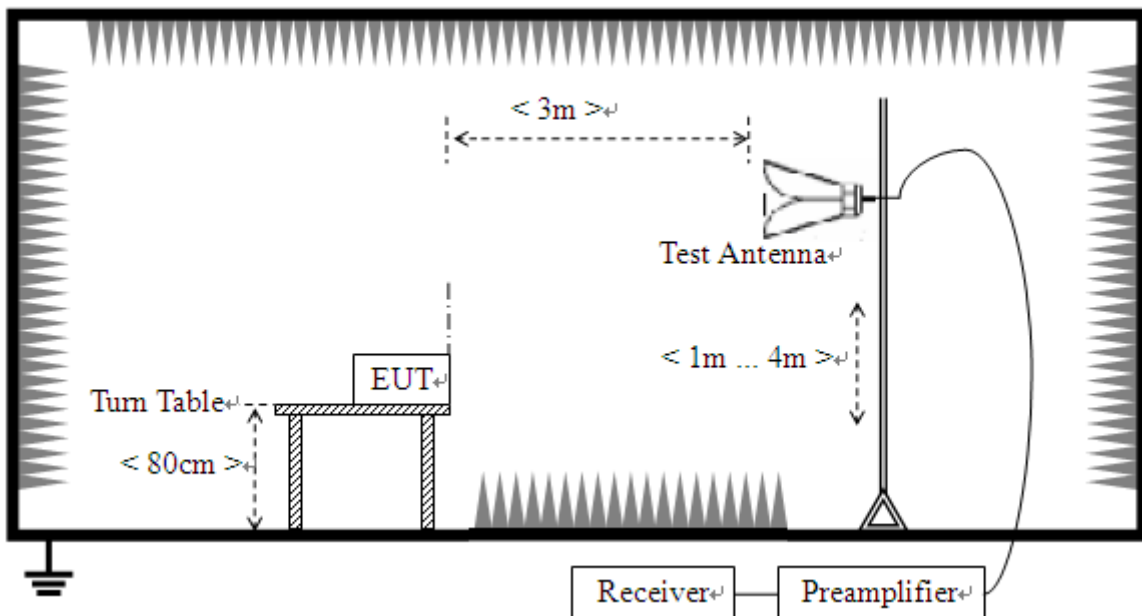
4.5 Test Setups

Test Setup 1



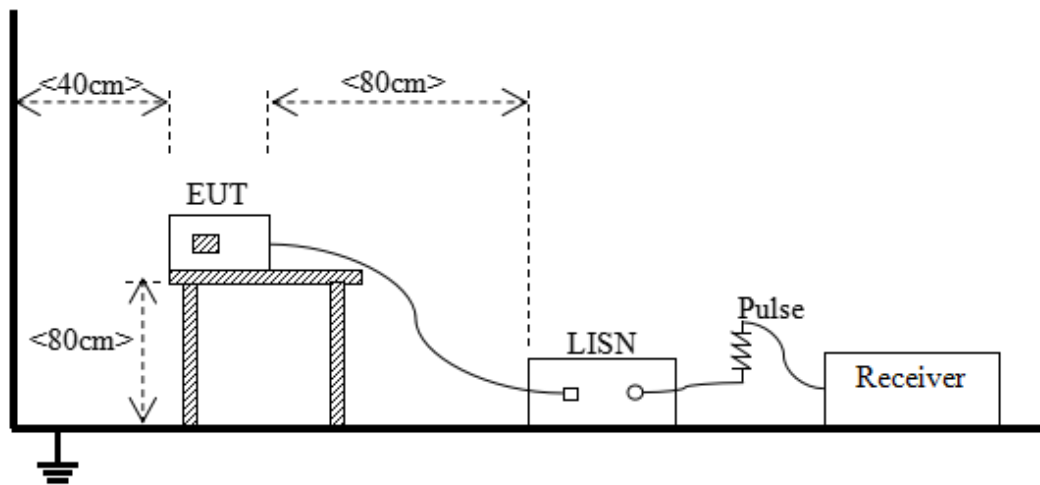
(For Radiated Emission Test (30 MHz-1 GHz))

Test Setup 2



(For Radiated Emission Test (above 1 GHz))

Test Setup 3



(For Conducted Emission, AC Ports Test)

4.6 Test Conditions

Test Case	Test Conditions	
Radiated Emission	Test Setup	Test Setup 1&2
	Test Configuration	TC01 ^{Note}
Conducted Emission, AC Ports	Test Setup	Test Setup 3
	Test Configuration	TC01 ^{Note}

Note: Based on client request, all normal using modes of the normal function were tested but only the worst test data of the worst mode is reported by this report. The Working Test Mode is the worst mode in this report.

5 TEST ITEMS

5.1 Emission Tests

5.1.1 Radiated Emission

5.1.1.1 Limit

FCC:

Frequency range (MHz)	Class B (at 3 m)		Class B (at 10 m)	Class A (at 10 m)	
	Field Strength ($\mu\text{V/m}$)	Field Strength ($\text{dB}\mu\text{V/m}$)	Field Strength ($\text{dB}\mu\text{V/m}$)	Field Strength ($\mu\text{V/m}$)	Field Strength ($\text{dB}\mu\text{V/m}$)
30 - 88	100	40	30	90	39
88 - 216	150	43.5	33.5	150	43.5
216 - 960	200	46	36	210	46.4
Above 960	500	54	44	300	49.5

NOTE:

- 1) Field Strength ($\text{dB}\mu\text{V/m}$) = $20 \cdot \log$ [Field Strength ($\mu\text{V/m}$)].
- 2) In the emission tables above, the tighter limit applies at the band edges.
- 3) The limits using ANSI C63.4.

IC:

Frequency range (MHz)	Class A (3 m) Quasi-peak ($\text{dB}\mu\text{V/m}$)	Class A (10 m) Quasi-peak ($\text{dB}\mu\text{V/m}$)	Class B (3 m) Quasi-peak ($\text{dB}\mu\text{V/m}$)	Class B (10m) Quasi-peak ($\text{dB}\mu\text{V/m}$)
30 - 88	50.0	40.0	40	30.0
88 - 216	54.0	43.5	43.5	33.1
216 - 230	56.9	46.4	46.0	35.6
230 - 960	57.0	47.0	47.0	37.0
960 - 1000	60.0	49.5	54.0	43.5

Note: The more stringent limit applies at transition frequencies.

Frequency range (GHz)	Class A (3 m) Average ($\text{dB}\mu\text{V/m}$)	Class A (3 m) Peak ($\text{dB}\mu\text{V/m}$)	Class B (3 m) Average ($\text{dB}\mu\text{V/m}$)	Class B (3 m) Peak ($\text{dB}\mu\text{V/m}$)
1 - F_M	60	80	54	74

Note:

1. The highest measurement frequency, F_M , in GHz, shall be determined as next Table.
2. The measurement bandwidth shall be 1 MHz or greater.
3. These limit levels apply for a measurement distance of 3 m. If using a different measurement distance, the measured levels shall be extrapolated to the 3 m limit distance using a factor of 20 dB per decade of distance. The measurement distance shall place the measurement

Frequency range (GHz)	Class A (3 m) Average (dB μ V/m)	Class A (3 m) Peak (dB μ V/m)	Class B (3 m) Average (dB μ V/m)	Class B (3 m) Peak (dB μ V/m)
antenna in the far field of the ITE or digital apparatus under test.				
4.The test site shall have been validated at the distance used for radiated emission measurements on the ITE or digital apparatus under test				

Highest internal frequency (F_x)	Highest measurement frequency (F_M)
$F_x \leq 108$ MHz	1GHz
108 MHz $\leq F_x \leq 500$ MHz	2GHz
500 MHz $\leq F_x \leq 1$ GHz	5GHz
$F_x \geq 1$ GHz	5 * F_x up to a maximum of 40 GHz
Note: F_x is the highest fundamental frequency generated and/or used in the ITE or digital apparatus under test.	

5.1.1.2 Test Setup

Refer to 4.5 section (test setup 1 to test setup 2) for radiated emission test, the photo of test setup please refer to ANNEX B.

5.1.1.3 Test Procedure

The test employing the methods of measurement described in the publication referenced in Section 3(b) (ANSI C63.4);

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

An initial pre-scan was performed in the chamber using the EMI Receiver in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by Bi-Log antenna with 2 orthogonal polarities.

The measurement frequency range is from 30 MHz to the 5th harmonic of the maximum frequency of the EUT internal source. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW \geq RBW

Sweep = auto

Detector function = peak for $f < 1$ GHz, peak & RMS Average for $f \geq 1$ GHz

Trace = max hold

5.1.1.4 Test Result

Please refer to ANNEX A.1.

NOTE:

1. Results (dBuV/m) = Reading (dBuV/m) + Factor (dB/m)

The reading level is calculated by software which is not shown in the sheet

2. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Amplifier Gain (dB)

3. Over limit = Results – Limit.

5.1.2 Conducted Emission

5.1.2.1 Test Limit

Frequency range (MHz)	Class A	
	Quasi-peak (dB μ V)	Average (dB μ V)
0.15 - 0.50	79	66
0.50 - 30	73	60

Frequency range (MHz)	Class B	
	Quasi-peak (dB μ V)	Average (dB μ V)
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

NOTE:

- 1) The lower limit shall apply at the band edges.
- 2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50 MHz.
- 3) The limit using ANSI C63.4.

5.1.2.2 Test Setup

Refer to 4.5 section test (test setup 3) for conducted emission, the photo of test setup please refer to ANNEX B.

5.1.2.3 Test Procedure

The test employing the methods of measurement described in the publication referenced in Section 3(b) (ANSI C63.4);

The EUT is connected to the power mains through a LISN which provides 50 Ω /50 μ H of coupling impedance for the measuring instrument. The test frequency range is from 150 kHz to 30 MHz. The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels that are more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed.

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

Use the following spectrum analyzer settings:

RBW = 9 KHz

VBW \geq RBW

Sweep = 10ms

Detector function =peak & Average

Trace = max hold

5.1.2.4 Test Result

Please refer to ANNEX A.2.

NOTE:

1. Results (dBuV) = Reading (dBuV) + Factor (dB)

The reading level is calculated by software which is not shown in the sheet

2. Factor = Insertion loss + Cable loss

3. Over limit = Results – Limit.

ANNEX A TEST RESULTS

A.1 Radiated Emission

Note 1: The symbol of "--" in the table which means not application.

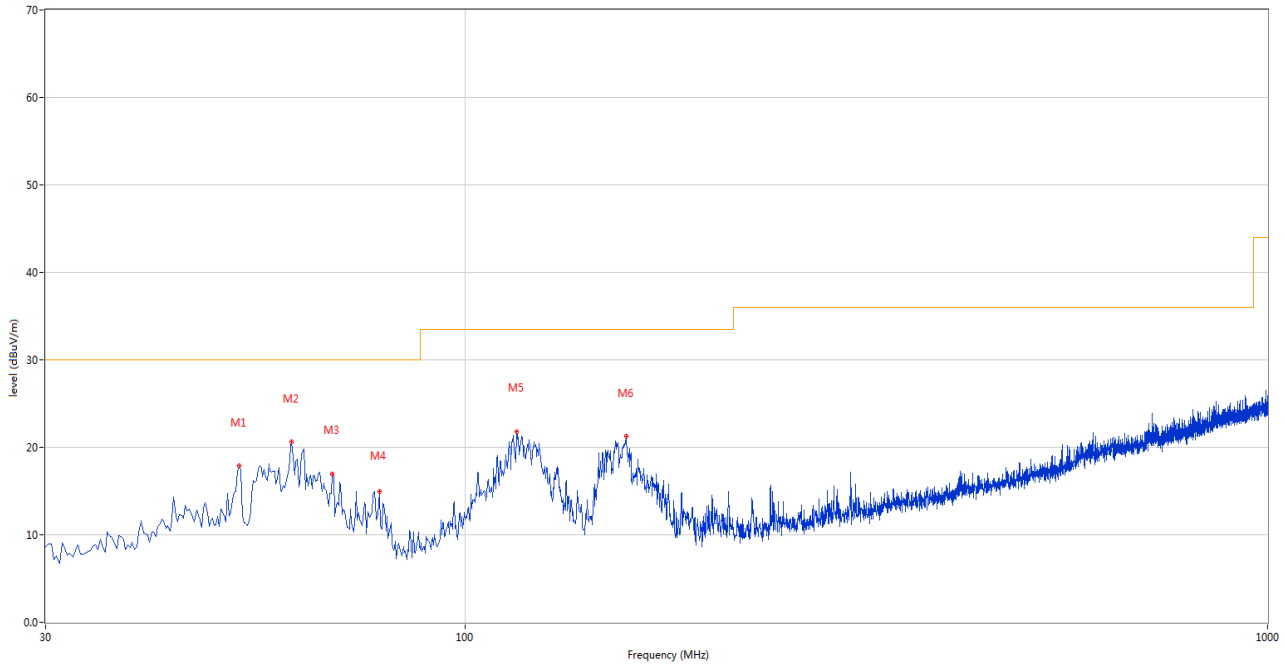
Note 2: For the test data above 1 GHz, according the ANSI C63.4-2014, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note 3: The Radiated Emission from 18G-40G is noise only, do not show on the report.

Test Data and Plots

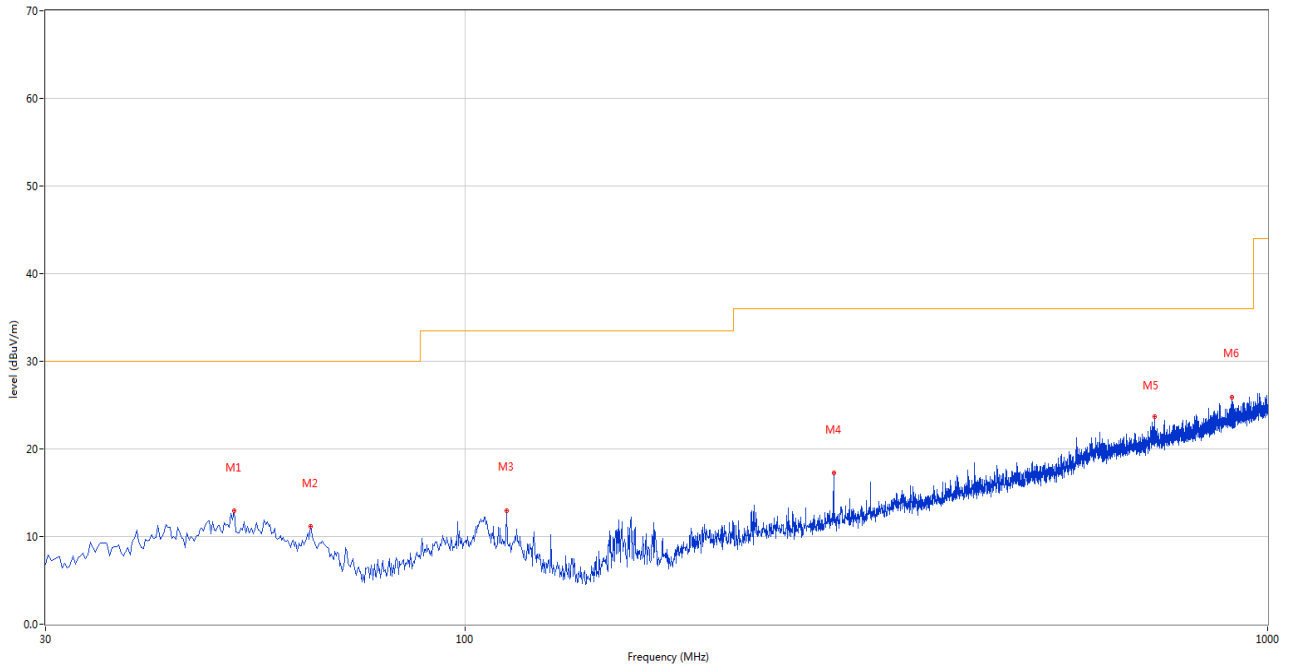
The Working Test Mode

A.1.1 Test Antenna Vertical, 30 MHz – 1 GHz(FCC)



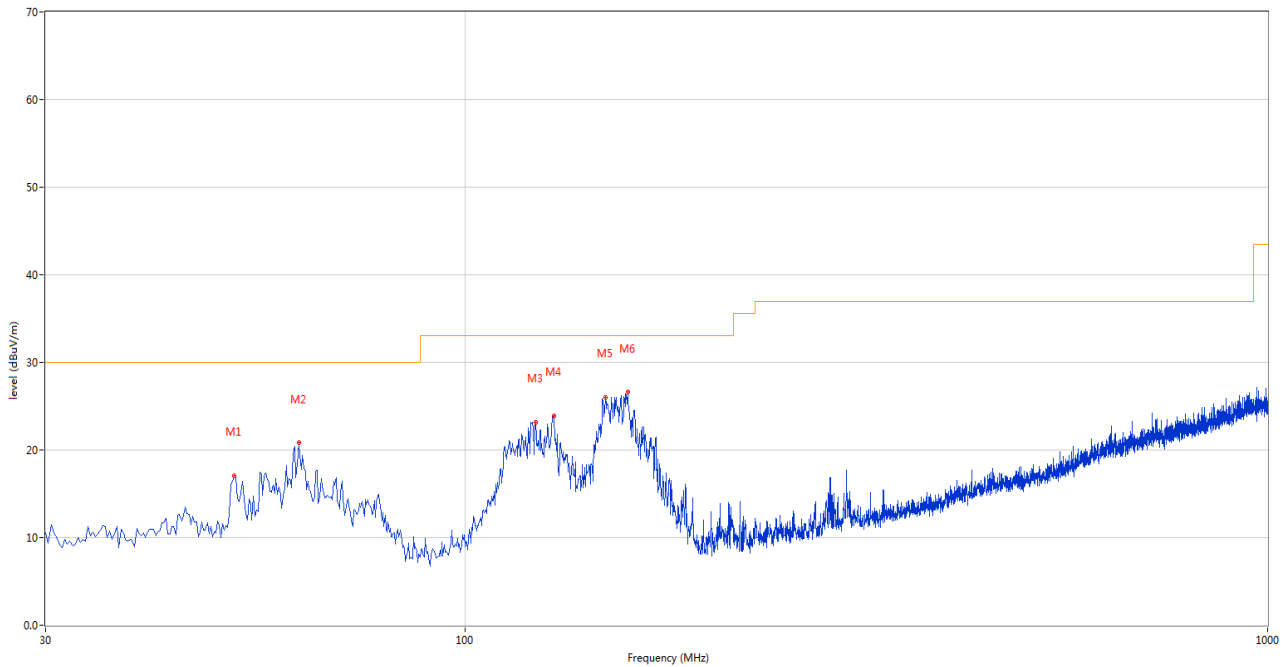
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	52.304	17.89	-26.26	30.0	-12.11	Peak	109.00	100	Vertical	Pass
2	60.790	20.62	-27.96	30.0	-9.38	Peak	199.00	100	Vertical	Pass
3	68.305	16.95	-29.75	30.0	-13.05	Peak	256.00	200	Vertical	Pass
4	78.245	14.95	-32.30	30.0	-15.05	Peak	156.00	200	Vertical	Pass
5	115.824	21.80	-28.97	33.5	-11.70	Peak	204.00	100	Vertical	Pass
6	158.735	21.26	-30.84	33.5	-12.24	Peak	230.00	100	Vertical	Pass

A.1.2 Test Antenna Horizontal, 30 MHz – 1 GHz(FCC)



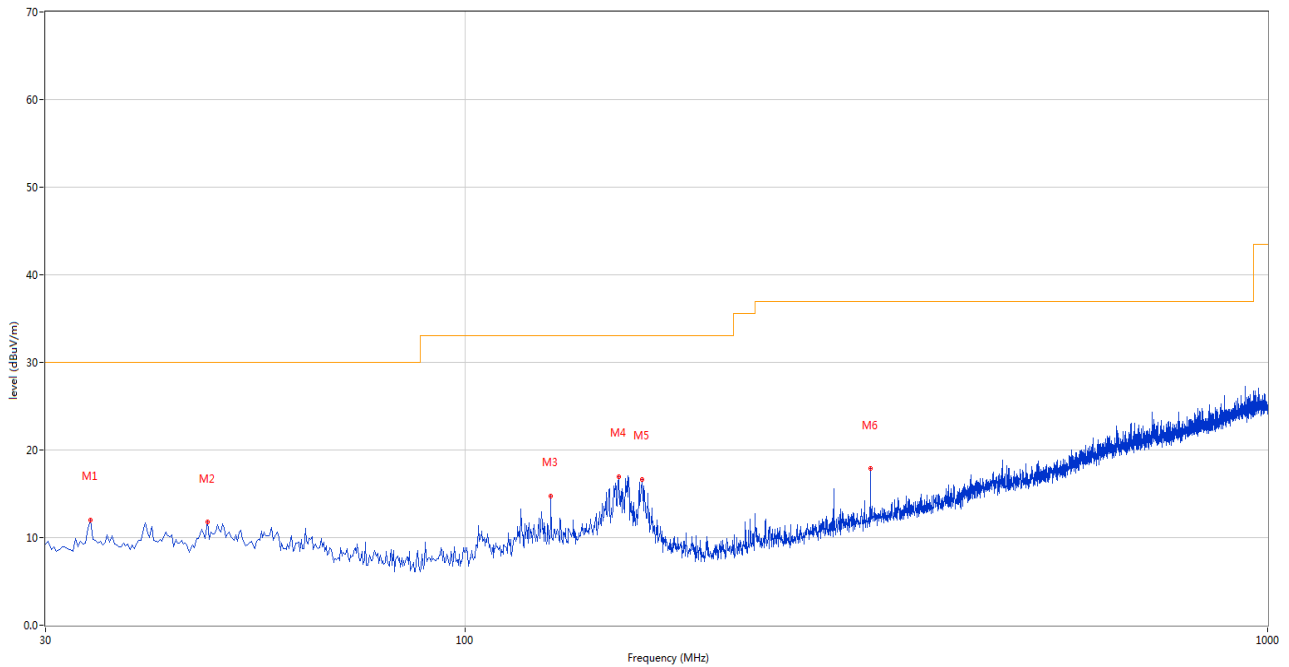
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	51.577	12.92	-26.21	30.0	-17.08	Peak	241.00	200	Horizontal	Pass
2	64.184	11.14	-28.09	30.0	-18.86	Peak	194.00	100	Horizontal	Pass
3	112.672	12.96	-28.41	33.5	-20.54	Peak	256.00	200	Horizontal	Pass
4	287.956	17.26	-25.38	36.0	-18.74	Peak	0.00	200	Horizontal	Pass
5	723.862	23.70	-15.61	36.0	-12.30	Peak	0.00	200	Horizontal	Pass
6	902.539	25.93	-12.61	36.0	-10.07	Peak	95.00	200	Horizontal	Pass

A.1.3 Test Antenna Vertical, 30 MHz – 1 GHz(IC)



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	51.577	17.09	-27.15	30.0	-12.91	Peak	161.00	200	Vertical	Pass
2	62.002	20.83	-28.20	30.0	-9.17	Peak	142.00	100	Vertical	Pass
3	122.369	23.19	-27.68	33.1	-9.91	Peak	203.00	100	Vertical	Pass
4	129.158	23.92	-27.27	33.1	-9.18	Peak	243.00	100	Vertical	Pass
5	149.523	26.01	-25.75	33.1	-7.09	Peak	278.00	100	Vertical	Pass
6	159.463	26.63	-25.53	33.1	-6.47	Peak	258.00	100	Vertical	Pass

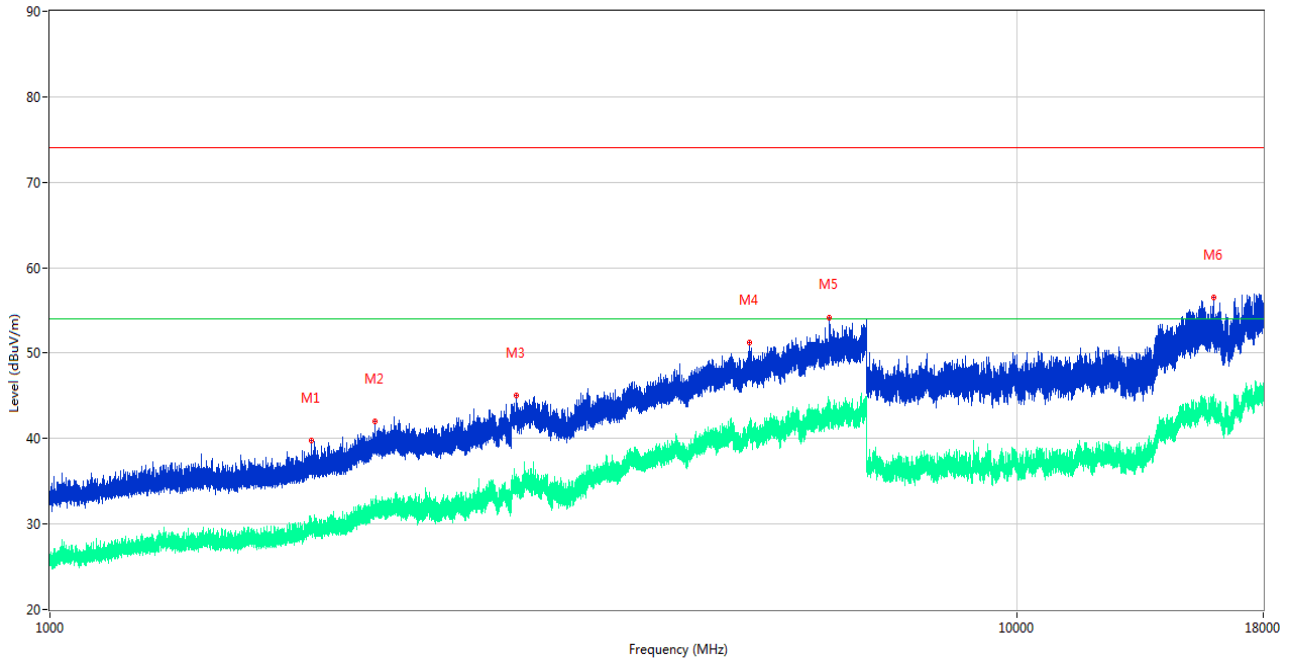
A.1.4 Test Antenna Horizontal, 30 MHz – 1 GHz(IC)



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	34.121	12.01	-27.19	30.0	-17.99	Peak	99.00	100	Horizontal	Pass
2	47.698	11.77	-26.99	30.0	-18.23	Peak	28.00	100	Horizontal	Pass
3	127.946	14.70	-27.33	33.1	-18.40	Peak	104.00	100	Horizontal	Pass
4	155.584	16.97	-25.66	33.1	-16.13	Peak	251.00	200	Horizontal	Pass
5	166.008	16.67	-26.17	33.1	-16.43	Peak	251.00	200	Horizontal	Pass
6	319.958	17.87	-24.94	37.0	-19.13	Peak	78.00	100	Horizontal	Pass

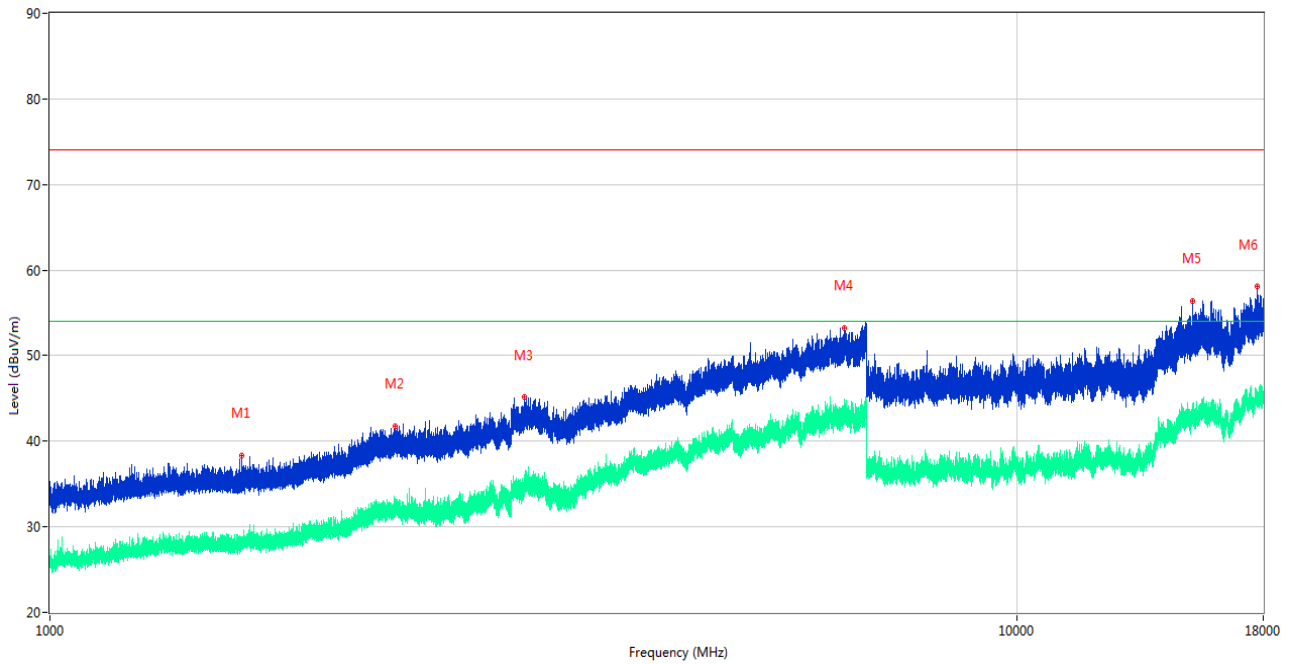
Test Data and Plots (Above 1 GHz)

A.1.5 Test Antenna Vertical, 1 GHz – 18 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1864.300	39.82	-13.52	74.0	-34.18	Peak	96.00	100	Vertical	Pass
1**	1864.300	29.11	-13.52	54.0	-24.89	AV	96.00	100	Vertical	Pass
2	2170.200	42.07	-10.47	74.0	-31.93	Peak	104.00	100	Vertical	Pass
2**	2170.200	31.02	-10.47	54.0	-22.98	AV	104.00	100	Vertical	Pass
3	3034.400	45.03	-6.97	74.0	-28.97	Peak	275.00	100	Vertical	Pass
3**	3034.400	34.23	-6.97	54.0	-19.77	AV	275.00	100	Vertical	Pass
4	5292.600	51.22	-0.06	74.0	-22.78	Peak	318.00	100	Vertical	Pass
4**	5292.600	41.29	-0.06	54.0	-12.71	AV	318.00	100	Vertical	Pass
5	6408.200	54.14	3.67	74.0	-19.86	Peak	281.00	200	Vertical	Pass
5**	6408.200	43.51	3.67	54.0	-10.49	AV	281.00	200	Vertical	Pass
6	15998.437	56.51	24.02	74.0	-17.49	Peak	116.00	100	Vertical	Pass
6**	15998.437	43.85	24.02	54.0	-10.15	AV	116.00	100	Vertical	Pass

A.1.6 Test Antenna Horizontal, 1 GHz – 18 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1579.800	38.30	-15.24	74.0	-35.70	Peak	148.00	100	Horizontal	Pass
1**	1579.800	28.06	-15.24	54.0	-25.94	AV	148.00	100	Horizontal	Pass
2	2277.700	41.75	-9.88	74.0	-32.25	Peak	228.00	100	Horizontal	Pass
2**	2277.700	32.28	-9.88	54.0	-21.72	AV	228.00	100	Horizontal	Pass
3	3098.000	45.12	-6.15	74.0	-28.88	Peak	134.00	100	Horizontal	Pass
3**	3098.000	35.76	-6.15	54.0	-18.24	AV	134.00	100	Horizontal	Pass
4	6639.600	53.25	3.97	74.0	-20.75	Peak	204.00	200	Horizontal	Pass
4**	6639.600	43.72	3.97	54.0	-10.28	AV	204.00	200	Horizontal	Pass
5	15205.162	56.44	22.18	74.0	-17.56	Peak	67.00	100	Horizontal	Pass
5**	15205.162	42.65	22.18	54.0	-11.35	AV	67.00	100	Horizontal	Pass
6	17736.188	58.11	23.98	74.0	-15.89	Peak	345.00	200	Horizontal	Pass
6**	17736.188	44.97	23.98	54.0	-9.03	AV	345.00	200	Horizontal	Pass

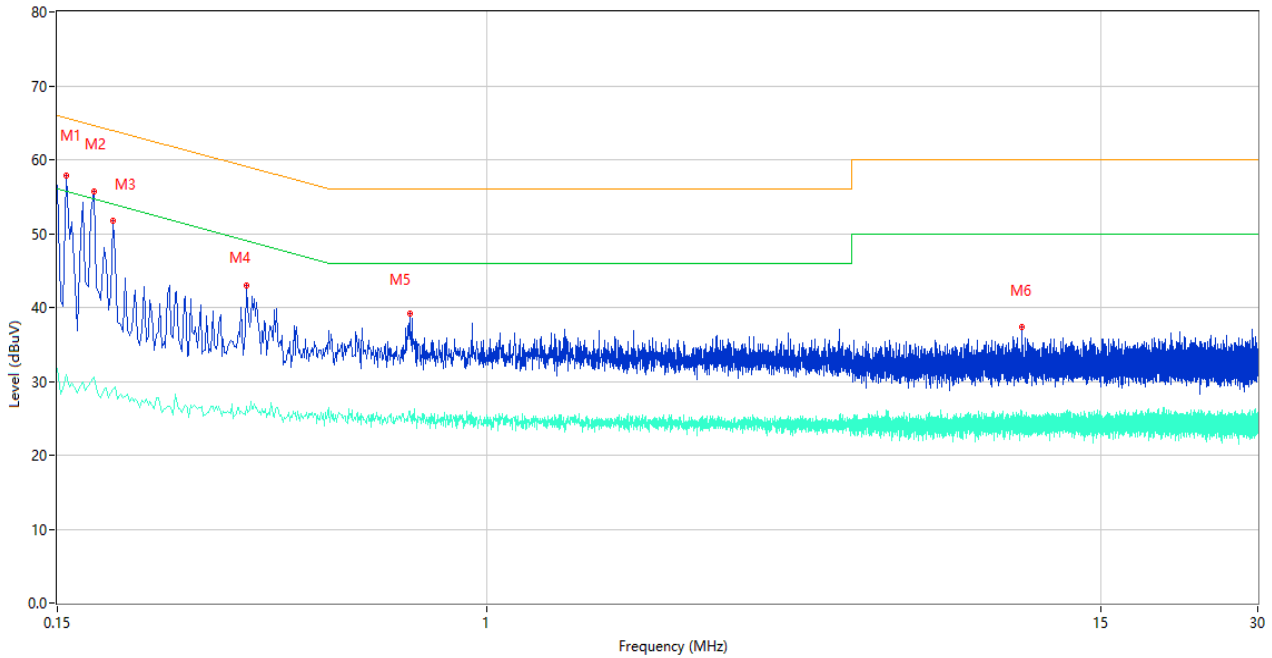
A.2 Conducted Emission

Note: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

Test Data and Plots

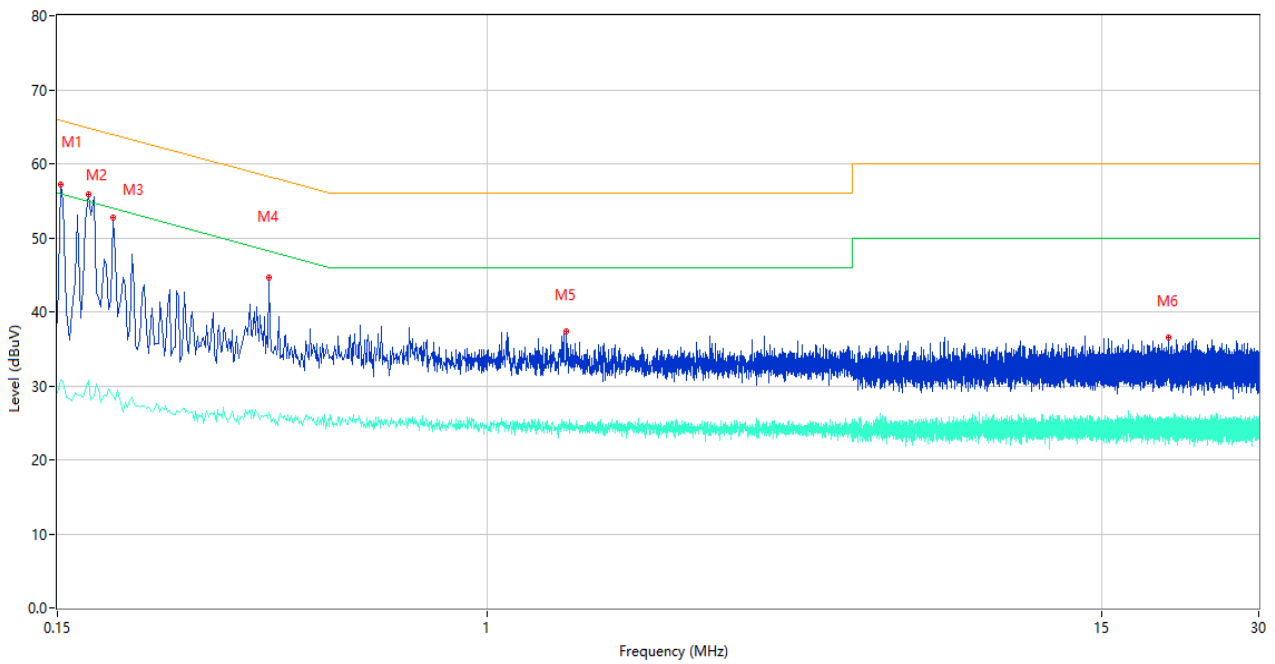
The Working Test Mode

A.2.1 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.156	57.93	10.99	65.67	-7.74	Peak	L	Pass
1**	0.156	30.95	10.99	55.67	-24.72	AV	L	Pass
2	0.176	55.75	10.98	64.67	-8.92	Peak	L	Pass
2**	0.176	30.54	10.98	54.67	-24.13	AV	L	Pass
3	0.192	51.66	10.96	63.95	-12.29	Peak	L	Pass
3**	0.192	28.97	10.96	53.95	-24.98	AV	L	Pass
4	0.346	43.00	10.89	59.06	-16.06	Peak	L	Pass
4**	0.346	26.61	10.89	49.06	-22.45	AV	L	Pass
5	0.710	39.24	10.83	56.00	-16.76	Peak	L	Pass
5**	0.710	25.93	10.83	46.00	-20.07	AV	L	Pass
6	10.610	37.30	10.66	60.00	-22.70	Peak	L	Pass
6**	10.610	24.80	10.66	50.00	-25.20	AV	L	Pass

A.2.2 N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.152	57.23	10.99	65.89	-8.66	Peak	N	Pass
1**	0.152	30.78	10.99	55.89	-25.11	AV	N	Pass
2	0.172	55.79	10.98	64.86	-9.07	Peak	N	Pass
2**	0.172	30.81	10.98	54.86	-24.05	AV	N	Pass
3	0.192	52.70	10.96	63.95	-11.25	Peak	N	Pass
3**	0.192	28.67	10.96	53.95	-25.28	AV	N	Pass
4	0.382	44.64	10.90	58.24	-13.60	Peak	N	Pass
4**	0.382	26.53	10.90	48.24	-21.71	AV	N	Pass
5	1.418	37.38	10.72	56.00	-18.62	Peak	N	Pass
5**	1.418	24.21	10.72	46.00	-21.79	AV	N	Pass
6	20.134	36.53	10.71	60.00	-23.47	Peak	N	Pass
6**	20.134	24.50	10.71	50.00	-25.50	AV	N	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-EC2220134-AE.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-EC2220134-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-EC2220134-AI.PDF”.

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--END OF REPORT--